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(54) Artificial intervertebral disc.

(57) An artificial intervertebral disc (10) comprising a pair of end bodies (1) which are provided, on their outer surfaces, with apatite layers (4) and a medical synthetic polymeric intermediate (3) which is held between the end bodies (1) through connecting members (2).

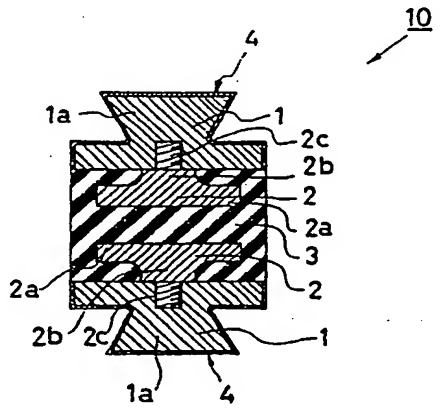

Fig.1

EP 0 317 972 A1

bodies 1 and the connecting members 2 are not limited to those illustrated in the drawings and can be modified without deviating from the scope of protection of the invention.

Claims

1. An artificial intervertebral disc (10) comprising a pair of end bodies (1) which are provided, on their outer surfaces, with apatite layers (4) and a medical synthetic polymeric intermediate (3) which is held between the end bodies (1) through connecting members (2).

2. An artificial intervertebral disc (10) according to claim 1, wherein said end bodies (1) are made of titanium.

3. An artificial intervertebral disc (10) according to claim 1, wherein said end bodies (1) are made of stainless steel.

4. An artificial intervertebral disc (10) according to one of claims 1 to 3, wherein said connecting members (2) are made of stainless steel.

5. An artificial intervertebral disc (10) according to one of claims 1 to 3, wherein said connecting members (2) are made of titanium.

6. An artificial intervertebral disc (10) according to one of claims 1 to 5, wherein said connecting members (2) have screws (2c) for connecting the same to the associated end bodies (1).

7. An artificial intervertebral disc (10) to be implanted between the vertebral bodies (11), according to one of claims 1 to 6, wherein said end bodies (1) have projections (1a) which can be engaged in the associated vertebral bodies (11).

8. An artificial intervertebral disc (10) according to one of claims 1 to 7, wherein said medical synthetic polymeric intermediate (3) has an elasticity.

9. An artificial intervertebral disc (10) according to claim 8, wherein said medical synthetic polymeric intermediate (3) is made of a material selected from silicone rubber, polyvinyl alcohol, and polyuretane.

10. An artificial intervertebral disc (10) according to one of claims 1 to 9, wherein said apatite layers (4) are formed by plasma spraying.

11. An artificial intervertebral disc (10) according to one of claims 1 to 10, wherein said apatite layers (4) and said end bodies (1) are made of materials having coefficients of thermal expansion substantially identical to each other.

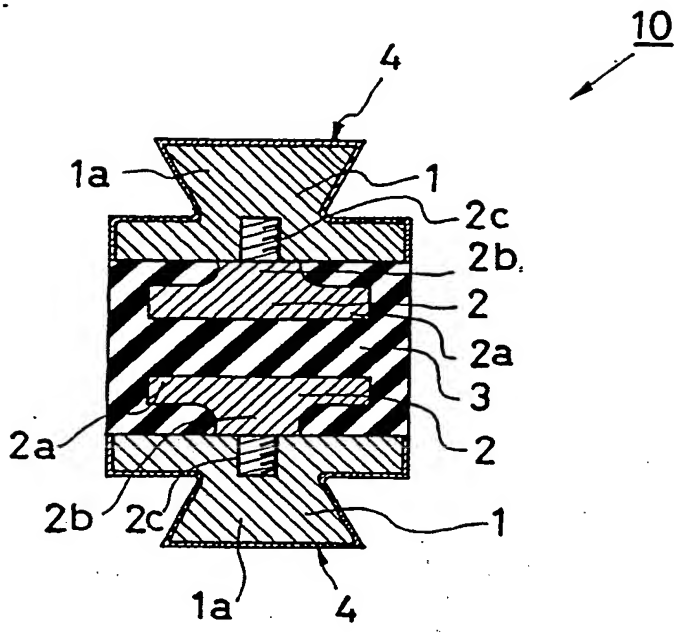

Fig.1

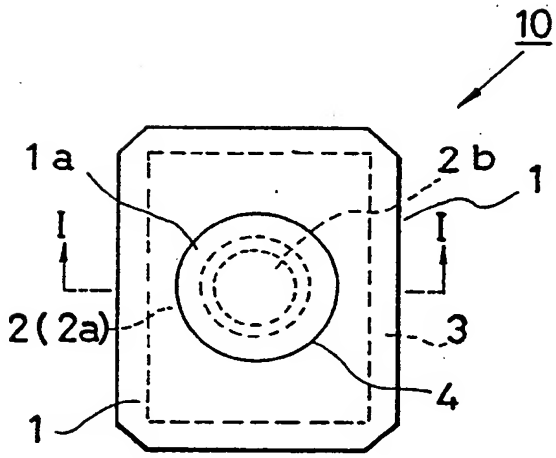

Fig. 2

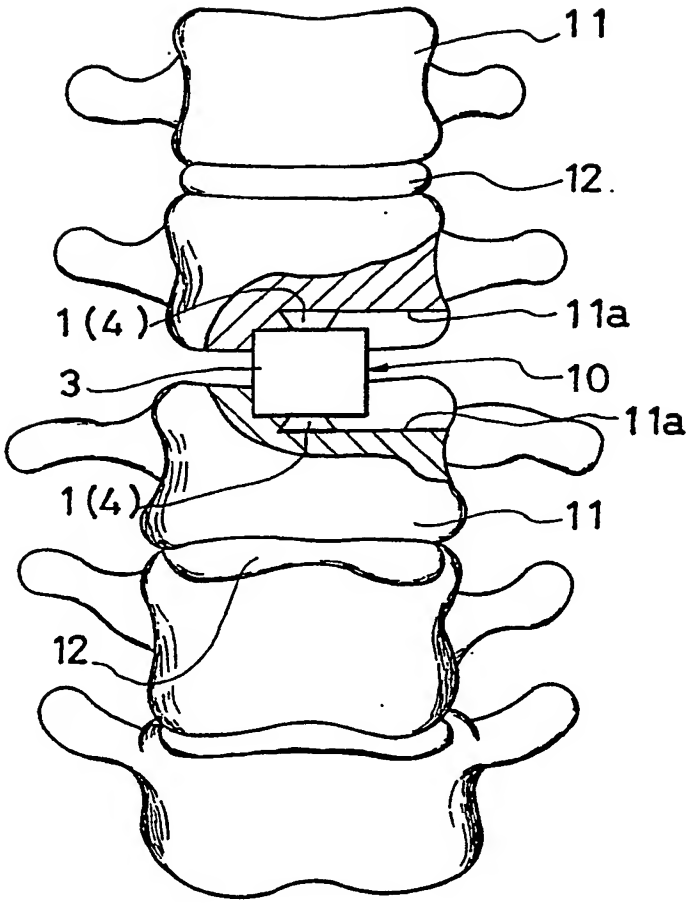

Fig.3

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EUROPEAN SEARCH REPORT

Application Number

EP 88 11 9477

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A	EP-A-0 176 728 (HUMBOLDT-UNIVERSITÄT) * Page 6, line 27 - page 7, line 14; page 9, lines 5-10; figures 1,2,11,12 *	1-3,6,7	A 61 F 2/44
A	US-A-4 553 273 (K. WU) * Column 1, line 51 - column 2, line 24; figures *	1,4,6	
A	DE-A-2 263 842 (HOFFMANN-DAIMLER) * Page 14, lines 1-4; page 15, line 13 - page 16, line 6; claim 1; figures 1,5 *	1,8,9	
A	FR-A-2 336 913 (SUMITOMO) * Page 1, lines 1-35; claims 1,13,17 *	1-3,10	
A	EP-A-0 202 908 (SUMITOMO) * Page 1, lines 2-19; claims 1,6,7 *	1,2,10	
A	DE-A-2 804 936 (SULZER) * Page 4, line 8 - page 5, line 11; figures 1-4 *	1,7	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
A	US-A-3 867 728 (STUBSTAD) * Column 7, lines 39-59; column 9, lines 63-67; figures 1-6 *	8,9	A 61 F
A	US-A-4 044 170 (SCHARBACH) * Column 1, line 53 - column 2, line 35 *	11	
A	DE-A-3 023 353 (SULZER)		
A	US-A-3 875 595 (FRONING)		

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	27-02-1989	KLEIN C.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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